DOCKET NO.: MSFT-1167 / 191769.01
Application No.: 09/265,493
Office Action Dated: January 16, 2007

PATENT
REPLY FILED UNDER EXPEDITED
PROCEDURE PURSUANT TO
37 CFR § 1.116

REMARKS

Claims 1-20 remain in the application. Claims 1-20 stand rejected.

The specification was objected to as failing to provide proper antecedent basis for "a surface normal vector." Applicants respectfully disagree. The phrase is clearly described at least on page 5 of the specification. The meaning of the phrase is clearly "ascertainable by reference to the description." 37 C.F.R. § 1.75(d)(1). Applicants respectfully request reconsideration of the objection.

In the Official Action, claims 1-20 were rejected as obvious under § 103(a).

The claim has been amended by the applicant's representative to indicate that there are selected and unselected parameters in a pixel and addresses the issue raised by the examiner in the recent Office Action. Applicant's representative submits that the claims as amended overcome the references for the reasons set forth below.

In order to establish a *prima facie* case of obviousness, a showing must be made that all claim limitations are taught or suggested by the prior art. MPEP § 2143.03. However, at least one limitation present in claim 1 is not taught or suggested by the prior art:

1.   In a computer graphics system, a method for applying texture mapping in per-pixel operations, the method comprising:

receiving a plurality of parameters that are used to define a pixel value at a pixel in a primitive;

selecting parameters from the plurality of parameters to generate selected parameters and unselected parameters where the unselected parameters are the plurality of parameters that are not selected;

substituting a texture value from a texture map in place of a values produced from an algorithm that uses the selected parameters to determine a pixel value;

> determining a texture value for each of the selected parameters
> by accessing a set of textures, the texture value for the selected
> parameters varying over the primitive; and
>
> *determining the pixel value by using the unselected parameters*
> *and the texture values over the primitive, wherein the set of*
> *unselected parameters are not texture values and the texture*
> *values are associated with the selected parameters.*

(emphasis added). The last element in claim 1 recites "determining the pixel value by using
... *unselected parameters* ... and ... *textures values* ... *associated with* the *selected*
parameters." Determining pixel values in this way patentably distinguishes over both
Lathrop and Lauzon.

Lathrop et al. generates display color values for each pixel by combining illumination
values and texture values using the combining function (Fig. 1, col.2, l. 60 to col. 4., l. 25,
and col. 4, l. 50 to col. 5, l. 56). But, unlike claim 1, Lathrop et al. lumps together all the
illumination values to be then combined together with texture values. Put another way,
Lathrop et al. does not separate the illumination values such that some values (selected
parameters) are associated with texture values but others are not so associated (unselected
parameters). Since Lathrop et al. uses all the illumination values in combination with the
texture values by using a combining function, it does not teach "determining the pixel value
by using ... *unselected parameters* ... and ... *textures values* ... *associated with* the *selected*
parameters" (claim 1).

Likewise, Lauzon falls short of teaching this limitation in claim 1. Lauzon arranges
its components into those that change as a selected texture is modified and those that are
constant. The Examiner equates the components that change as a selected texture is modified
to the selected parameters, and the components that are constant to the to unselected
parameters (Office Action, p. 3, ll. 11-14). This is unwarranted since the "unselected
parameters [in claim 1] may be used *without modification* in evaluating a light equation to
determine a pixel value" (Application, p.13, ll.11-12) (emphasis added)—that is, these
parameters are used without modification because they are "unselected" in the first place.

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Conversely, the constant components of Lauzon are *modified* because they are *pre-computed* to reduce computational requirements. In fact, Lauzon *selects both* of its components for *modification*: the changing components as a selected texture is modified and the constant components for pre-computing. Hence, Lauzon does not teach "determining the pixel value by using the *unselected parameters* … and the *textures values … associated with* the *selected parameters*" (claim 1).

Lastly, Peercy et al. is cited for the proposition that it discloses the third element in claim 1, namely, "substituting a texture value from a texture map in place of a value produced from an algorithm that uses the selected at least one parameter to determine a pixel value" (See Office Action, p.4, ll. 3-17). The third element is not at issue presently, instead the focus is on the fifth element. Peercy et al. does not disclose this fifth element and is not cited for this purpose in the Office Action. Thus, Peercy et al. does not disclose to "determining the pixel value by using the *unselected parameters* … and the *textures values … associated with* the *selected parameters*" (claim 1).

Similarly, independent claims 10 and 15 also patentably define over the art of record. For example, claim 10 recites "a rendering unit for generating the pixel value in response to the *texture values of the selected parameters* and to the *unselected parameters*." Claim 15 recites, "means for determining the pixel value by using the *unselected parameters* … and the *texture values* … associated with the *selected parameters*." Hence, Applicants respectfully submit that claims 1, 10, and 15 patentably define over the cited art.

Insomuch as claims 2-9, 11-14, and 16-20 depend either directly or indirectly from claims 1, 10, and 15, respectively, Applicants submit that they also patentably define over the art of record at least for the reasons set forth above. Accordingly, Applicants submit that claims 1-20 patentably define over Lathrop et al., in view of Lauzon, and further in view of Peercy et al. Allowability of the pending claims is thus earnestly solicited.

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CONCLUSION

Applicants believe that the present Amendment is responsive to each of the points raised by the Examiner in the Office Action, and submit that Claims 1-20 of the application are in condition for allowance. Favorable consideration and passage to issue of the application at the Examiner's earliest convenience is earnestly solicited.

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